Claims

1. A lateral thyristor structure for protection against electrostatic discharge, comprising:

   -a semiconductor substrate (20) of a first conduction type, with a surface;

   -a well region (21) of a second conduction type, opposite to the first one, which is introduced into the surface of the semiconductor substrate;

   -a first, strongly doped region (22) of a second conduction type, which is introduced into the surface of the semiconductor substrate (20), and which is electrically connected to a first terminal (26);

   -a second, strongly doped region (23) of a first conduction type, which is introduced into the well region (21), and which is electrically connected to a second terminal (27);

   -a third, strongly doped region (24) of another, second conduction type, which is introduced into the well region (21), and which is electrically connected to the second terminal (27), and which is spatially arranged between the first, strongly doped region (22) and the second, strongly doped region (23); and

   -a fourth, strongly doped region (25) of the second conduction type, which is introduced into the surface of the semiconductor substrate (20) and into the well region (21), and which is spatially situated above the pn junction that is formed between the semiconductor substrate (20) and the well region (21), and between the third, strongly doped region (24) and the first, strongly doped region (22).

2. The lateral thyristor structure of Claim 1, characterized in that a field oxide region (28) is situated between the first, strongly doped region (22) and the fourth, strongly doped region (25).

3. The lateral thyristor structure of Claim 1 or 2, characterized in that a field oxide region (29) is situated between the second, strongly doped region (23) and the fourth, strongly doped region (25).

4. The lateral thyristor structure of one of the Claims 1 to 3, characterized in that the first conduction type is p-conducting and the second conduction type is n-conducting.

5. The lateral thyristor structure of one of the Claims 1 to 4, characterized in that the first terminal is connected to ground, and that the second terminal is connected to a signal input line or to a signal output line.

6. The lateral thyristor structure of one of the Claims 1 to 5, characterized in that a region (41) of the second conduction type, and equipped with a terminal (40), is introduced into a field oxide region (29, 30), the terminal (40) being connected to a circuit (4) that is being protected.

7. The lateral thyristor structure of one of the Claims 1 to 6, characterized in that the thyristor structures comprise at least two component structures.

8. The lateral thyristor structure of Claim 7, characterized in that the component structures are surrounded by a substrate contact ring (31).

9. The lateral thyristor structure of Claim 7 or 8, characterized in that the component structures are arranged symmetrically, and specifically in such a way that the active regions adjoin one another closely, while the substrate contacting [sic] is removed as far as possible from the active region.

10. The lateral thyristor structure of one of the preceding claims, characterized in that the active regions adjoin one another closely, while the substrate contact ring is removed as far as possible from the active region.

11. The lateral thyristor structure of one of the preceding claims, characterized in that the regions 23 and 24 are exchanged.